

## Product Catalogue 2019/20



















## Kee<sup>®</sup> Safety

## Separating people from hazards... this is the simple philosophy that drives Kee Safety.

As a leading global supplier of fall protection systems, guardrails and working at height safety equipment, our business has substantially expanded since our inception in the UK some 80 years ago, with the launch of our very first KEE KLAMP fittings range.

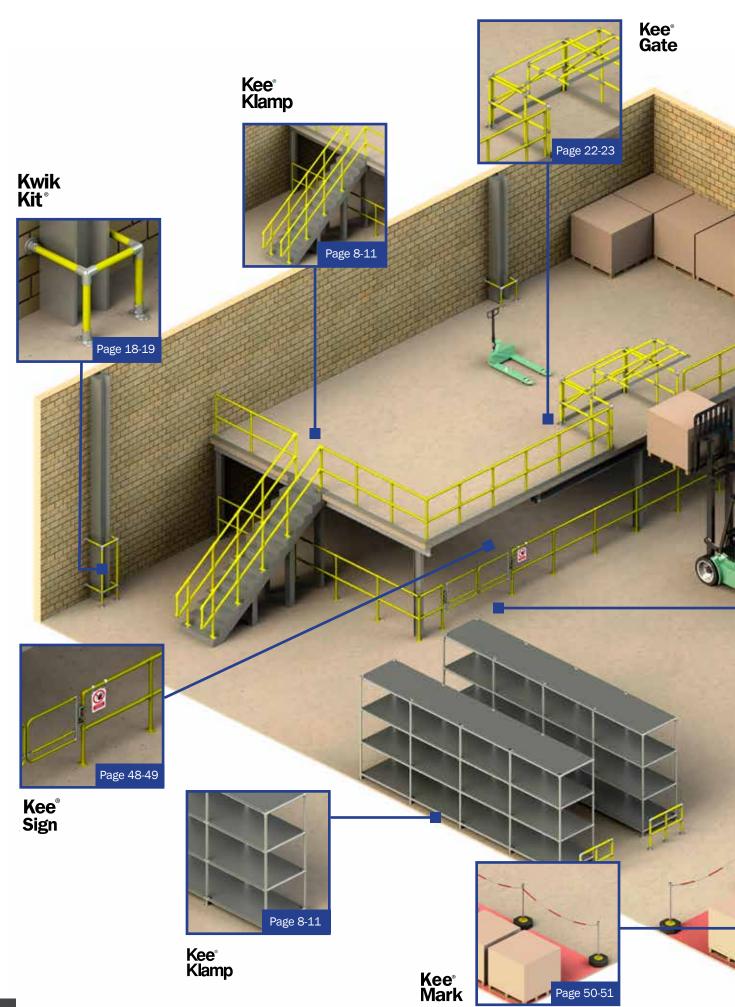
Kee Safety distributors and stockists have access to a wide range of our safety products, including components for safety barriers, fall protection and safe access systems, and CE certified steelwork fixings.

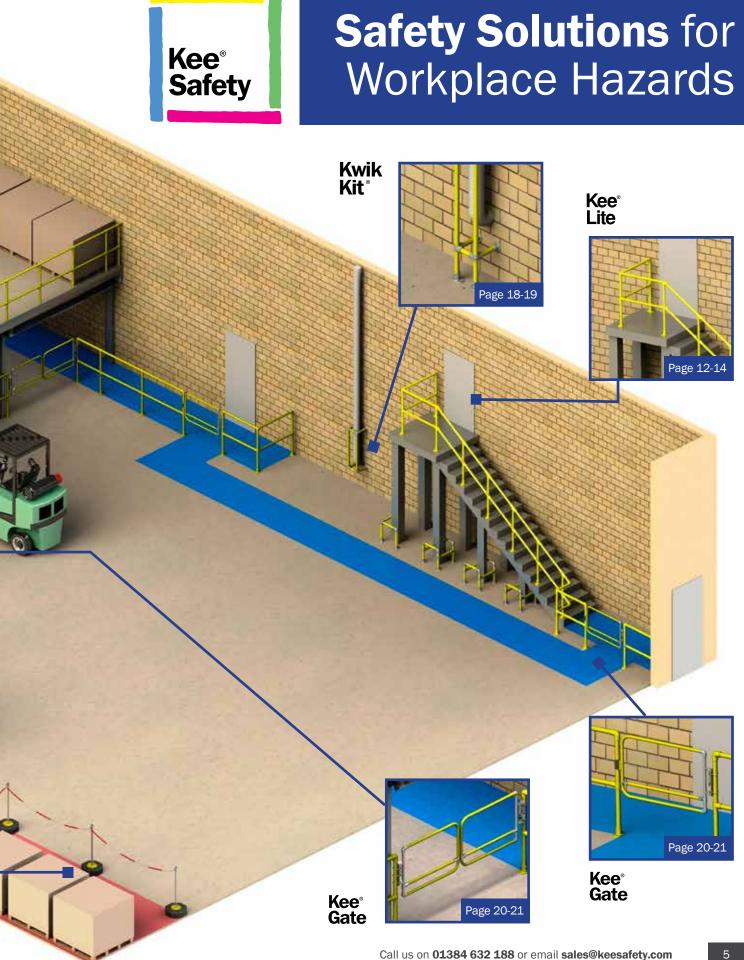
Our dedicated sales and technical teams have worked within the construction industry for many years. Together with their expert industry knowledge and our safety product ranges, Kee Safety is fully capable of providing you with safety solutions that will service your clients' needs.

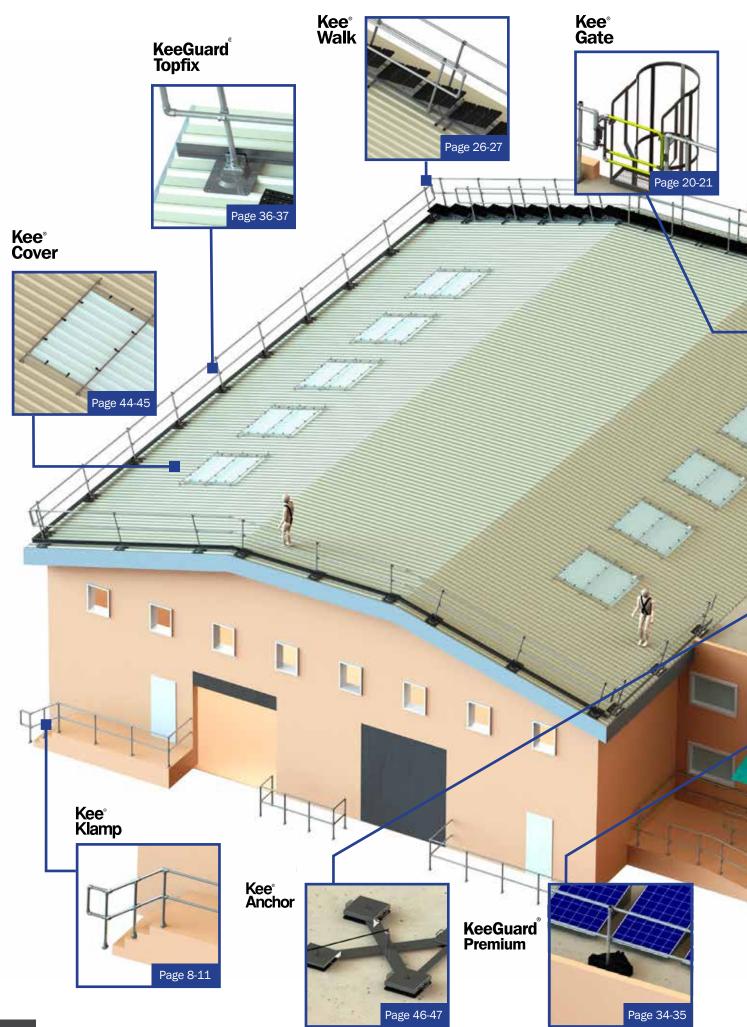


## **Contents**

|   | Safety Solutions for Workplace Hazards                    | 4-5   |
|---|---|-------|
|   | Safety Solutions for Working at Height                    | 6-7   |
|   | KEE KLAMP Safety Barrier Solutions                        | 8-11  |
|   | KEE LITE Aluminium Barrier Solutions                      | 12-14 |
|   | Safety Loading Standards                                  | 15    |
|   | KEE ACCESS Handrails for People with Disability           | 16-17 |
|   | KWIK KIT Warehouse Barriers                               | 18-19 |
|   | KEE GATE Self Closing Safety Gates                        | 20-21 |
|   | KEE GATE Pallet Gates                                     | 22-23 |
|   | KEE WALK Modular Step Over Kits                           | 24-25 |
|   | KEE WALK With Guardrail                                   | 26-27 |
|   | KEEGUARD Free Standing Edge Protection                    | 28-31 |
|   | KEEGUARD LITE Aluminium Roof Edge Protection              | 32-33 |
|   | KEEGUARD PREMIUM Portable Roof Edge Protection            | 34-35 |
|   | KEEGUARD TOPFIX Edge Protection for Cladded Roofs         | 36-37 |
|   | KEEGUARD FOLDSHIELD Folding Free-standing Edge Protection | 38-39 |
|   | KEEGUARD LADDER KIT Guardrail Kit for Roof Top Ladders    | 40-41 |
|   | KEE DOME Skylight Fall Protection                         | 42-43 |
|   | KEE COVER Rooflight Protection                            | 44-45 |
|   | KEE ANCHOR Portable Deadweight Anchor                     | 46-47 |
|   | KEE SIGN Safety Signs Range                               | 48-49 |
|   | KEE MARK Free-standing Demarcation                        | 50-51 |
|   | BOXBOLT Blind Cavity Fixing                               | 52-54 |
|   | Help Desk   | 55    |
| - |   |       |









## **Safety Solutions** for Working at Height









0/D 21.3mm N/B 15mm





O/D 33.7mm N/B 25mm



O/D 42.4mm N/B 32mm



O/D 48.3mm N/B 40mm

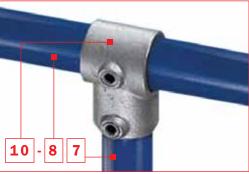


| KEE KLAMP<br>Fitting Size | Tube Diameter<br>Ø mm O/D |
|---------------------------|---------------------------|
| 3                         | 17.5                      |
| 4                         | 21.3                      |
| 5                         | 26.9                      |
| 6                         | 33.7                      |
| 7                         | 42.4                      |
| 8                         | 48.3                      |
| 9                         | 60.3                      |



## The MOST FLEXIBLE SOLUTION

for the construction of safety railing, handrail, guardrail and barriers



## Safety Barrier Solutions

#### **Key Features**

KEE KLAMP components offer the most flexible solution for the construction of safety railing, handrail, guardrail and barriers. The KEE KLAMP range comprises a comprehensive selection of simple to use, galvanised malleable cast iron fittings. These fittings allow pre-cut lengths of standard tubing to be connected together to form safety guardrails and other types of tubular framework structure.

All fittings within the KEE KLAMP range incorporate an integral socket screw which locks the fitting securely onto its tube to give an excellent slip load performance. The extensive range ensures that they can also cope easily with any changes in direction or gradient, and easily accommodate requirements for adapting or extending an existing structure.

KEE KLAMP railing systems offer a strong and durable solution to separate people from hazards; they are more resistant to corrosion and can last much longer than fabricated barriers and handrails. They also eliminate the need for welding, cutting, threading or bolting and remove the need for skilled labour and permits for work. The main KEE KLAMP fittings are TÜV certified for strength, manufacturing quality and consistency.

KEE SAFETY barrier systems meet every safety loading standard, please refer to the Safety Loading Standards chart on page 15 for more information.

#### **Technical Information**

KEE KLAMP components are available in seven sizes to suit different tube diameters. The fittings are iron castings manufactured to the requirements of EN 1562 & 1563. A KEE KLAMP component (sizes 5 to 9) can support an axial load of 900Kg per set screw with the set screw tightened to a torque of 4Kgm (39Nm or 29lbs ft); rating includes a safety factor of 2:1. This is normally obtained when the set screw is fully tightened using a ratchet wrench.

#### **Specifying KEE KLAMP Components**

Each fitting has a simple numerical code reference, which defines the type of fitting and the pipe size, or sizes, it is designed to receive. The first number, preceding the dash (-) identifies the type of KEE KLAMP fitting. A single digit, following the dash, defines tube size. Two single digits after the dash indicate that the fitting is designed to receive two sizes of tube.

- Widest range of tubular fittings available on the market
- Use standard tube
- No welding, so no hot work permits required
- Quick installation / Cost-effective
- Flexible systems allow on-site alterations
- Can be used in all types of market sectors



# Kee<sup>®</sup> Klamp

25

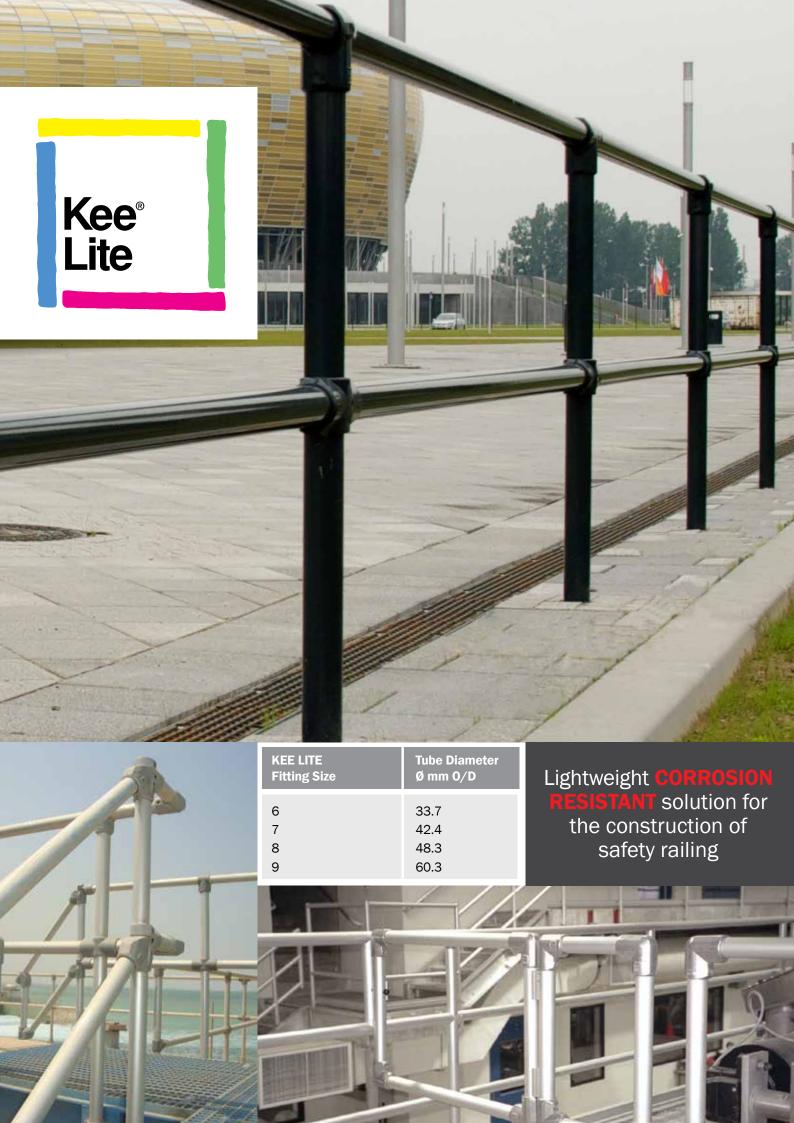


26

**A26** 

11°-30°





### **Aluminium** Barrier Solutions

#### **Key Features**

KEE LITE aluminium components offer lightweight flexible solutions for the construction of safety railing, handrail, guardrail and barriers.

Manufactured from a high-grade Aluminium Silicon Magnesium Alloy, KEE LITE fittings are much lighter than ordinary fittings and extremely durable; even in harsh environments.

Aluminium provides high corrosion resistance while the integral stainless steel set screws in each fitting, designed to lock the product safely and securely onto its respective tube, deliver an excellent slip load performance. This technology, already well proven in the market leading range of KEE KLAMP fittings, eliminates the need for time consuming welding or specialist installation skills, so helping to reduce structure assembly time and lower project costs even further.

The KEE LITE range has gained TÜV approval for the main components after undergoing extensive testing.

#### **Technical Information**

KEE LITE aluminium fittings are available in four sizes to suit different tube diameters. The fittings are made from high grade Aluminium Silicon Magnesium Alloy. Recommended set screw torque is 39Nm. Minimum slip load capacity on aluminium tube: 7.56kN (safety factor = 2 with tube having a minimum UTS of 275 N/mm<sup>2</sup>).

#### **Specifying KEE LITE Components**

Each fitting has a simple numerical code reference, which defines the type of fitting and the pipe size, or sizes, it is designed to receive. The first number, preceding the dash (-) identifies the type of KEE LITE fitting. A single digit, following the dash, defines tube size. Two single digits after the dash indicate that the fitting is designed to receive two sizes of tube. Refer to example on page 8-9 for selecting KEE LITE fitting.

- Superior corrosion resistance, strength and durability
- Ideal handrail solution for harsh environments
- Use standard tube
- No welding, threading or bolting required
- Quick installation / Cost-effective
- Flexible systems allow on-site alterations



I 10-6 L10-7 L10-8

SINGLE SOCKET TEE



L14-7 L14-8

STRAIGHT COUPLING



L15-6 L15-7 L15-8

90° ELBOW



L19-6 I 19-7 L19-8

ADJUSTABLE SIDE OUTLET TEE



L20-6 L20-7 L20-8

SIDE OUTLET **ELBOW** 



TYPE I 21-6 L21-7 L21-8

90° SIDE OUTLET



125-7 L25-8

THREE SOCKET TEE



TYPE L26-6 L26-7 L26-8 L26-9

TWO SOCKET CROSS



TYPE L29-7 129-8

30° TO 60° SINGLE SOCKET TEE



L30-7 130-8

30° TO 45° AD IIISTARI F CROSS



THREE SOCKET

L45-6 L45-7 L45-8

CROSSOVER



#### Continued...



TYPE LC52-666 LC52-777 LC52-888

90° CORNER SWIVEL SOCKET





L67-8



L84-6 L84-7 L84-8





SQUARE FLANGE



**LM50** 

TYPE L46-6

**LC50** 

COMBINATION SOCKET TEE AND CROSSOVER



TYPE LM50-6 LM50-7 LM50-8

MALE SINGLE SWIVEL SOCKET MEMBER



TYPE LC51-666 LC51-777 LC51-888

LC50-66

LC50-77

LC50-88

SINGLE

SWIVEL

SOCKET

DOUBLE SWIVEL SOCKET



LF50-6 LF50-7 LF50-8

FEMALE SINGLE SWIVEL SOCKET MEMBER



TYPE LM51-6 LM51-7 LM51-8

MALE DOUBLE SWIVEL SOCKET MEMBER



TYPE LM52-6 LM52-7 LM52-8

90° MALE CORNER SWIVEL SOCKET



TYPE LB54-66 LB54-77 LB54-88

ADJUSTABLE



TYPE LC58-6 LC58-7 LC58-8

SWIVEL FLANGE



LM58

TYPE L61

L61-6 L61-7 L61-8

FLANGE



TYPE L62-6 L62-7 L62-8

STANDARD RAILING FLANGE



L63-8

ANGLE BASE FLANGE



L68-6 168-7 L68-8

WALL FLANGE



TYPE L69-7 L69-8

FLANGE WITH TOEBOARD ADAPTOR



TYPE L70-6 L70-7 L70-8





L114-6 L114-7 L114-8

SWIVEL



TYPE L148-9/2 L148-9/4 (/2 & /4 refer to the number of fixing holes)

HEAVY DUTY RECTANGULAR FLANGE



L150-8

DUTY 4 HOLE SQUARE FLANGE

HEAVY



L152-6 L152-7 L152-8

4 HOLE



TYPF L160-7 L160-8

SMOOTH HANDRAIL



TYPE L164-8

OFFSET WALL FLANGE



## Safety **Loading Standards**

Kee Safety barrier systems meet every safety loading standard up to 1500 Newtons per Metre (N/m) in practically every location.

360 Newtons per metre run (N/m) 740 Newtons per metre run (N/m) 1500 Newtons per metre run (N/m) Retail/Public Access

Industrial Use-Non Emergency Commercial Use

The current regulations give various design requirements to be fulfilled of which the Design Load is the most important.

| Kee     | Tube Size            | <b>6</b><br>3.2mm        | <b>7</b><br>3.2mm         | <b>7</b><br>4mm           | <b>8</b><br>3.2mm         | <b>8</b><br>4mm            | <b>8</b><br>5mm             | <b>9</b><br>3.65mm         | <b>9</b><br>4.5mm           |
|---------|----------------------|--------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Klamp   | Grade                | BS EN 10255<br>Medium    | BS EN 10255<br>Medium     | BS EN 10255<br>Heavy      | BS EN 10255<br>Medium     | BS EN 39                   | <b>EN 10210</b><br>S355 JOH | BS EN 10255<br>Medium      | <b>BS EN 10255</b><br>Heavy |
| Load    | Design Load Criteria | Upright Height 900mm     |                           |                           |                           |                            |                             |                            |                             |
| d Chart | 360 N/m              | <b>814mm</b><br>(4.44KN) | <b>1369mm</b><br>(6.52KN) | <b>1595mm</b><br>(7.60KN) | <b>1828mm</b><br>(7.73KN) | <b>2584mm</b> (10.92KN)    | <b>3052mm</b><br>(12.90KN)  | <b>3265mm</b><br>(13.80KN) | <b>3856mm</b><br>(14.75KN)  |
| 큐       | 740 N/m              | <b>396mm</b><br>(4.44KN) | <b>666mm</b><br>(6.52KN)  | <b>776mm</b><br>(7.60KN)  | <b>889mm</b><br>(7.73KN)  | <b>1257mm</b><br>(10.92KN) | <b>2229mm</b> (19.36KN)     | <b>1588mm</b> (13.80KN)    | <b>1876mm</b> (14.75KN)     |
|         | 1500 N/m             | <b>195mm</b><br>(4.44KN) | <b>329mm</b><br>(6.52KN)  | <b>383mm</b><br>(7.60KN)  | <b>439mm</b><br>(7.73KN)  | <b>620mm</b> (10.92KN)     | <b>1100mm</b> (19.36KN)     | <b>784mm</b> (13.80KN)     | <b>925mm</b><br>(14.75KN)   |
|         | Design Load Criteria | Upright Height 1000mm    |                           |                           |                           |                            |                             |                            |                             |
|         | 360 N/m              | <b>732mm</b><br>(4.44KN) | <b>1232mm</b><br>(6.52KN) | <b>1435mm</b> (7.60KN)    | <b>1645mm</b> (7.73KN)    | <b>2326mm</b> (10.92KN)    | <b>2930mm</b> (13.76KN)     | <b>2939mm</b> (13.80KN)    | <b>3470mm</b><br>(14.75KN)  |
|         | 740 N/m              | <b>356mm</b><br>(4.44KN) | <b>599mm</b><br>(6.52KN)  | <b>698mm</b><br>(7.60KN)  | <b>800mm</b><br>(7.73KN)  | <b>1131mm</b> (10.92KN)    | <b>2006mm</b> (19.36KN)     | <b>1430mm</b> (13.80KN)    | <b>1688mm</b> (14.75KN)     |
|         | 1500 N/m             | <b>176mm</b><br>(4.44KN) | <b>296mm</b><br>(6.52 KN) | <b>345mm</b><br>(7.60KN)  | <b>395mm</b><br>(7.73KN)  | <b>558mm</b> (10.92KN)     | <b>990mm</b> (19.36 KN)     | <b>705mm</b><br>(13.80 KN) | <b>833mm</b> (14.75 KN)     |
|         | Design Load Criteria | Upright Height 1100mm    |                           |                           |                           |                            |                             |                            |                             |
|         | 360 N/m              | <b>666mm</b><br>(4.44KN) | <b>1120mm</b><br>(6.52KN) | <b>1305mm</b><br>(7.60KN) | <b>1496mm</b><br>(7.73KN) | <b>2114mm</b> (10.92KN)    | <b>2778mm</b> (14.35KN)     | <b>2671mm</b> (13.80KN)    | <b>3155mm</b> (14.75KN)     |
|         | 740 N/m              | <b>324mm</b><br>(4.44KN) | <b>545mm</b><br>(6.52KN)  | <b>635mm</b><br>(7.60KN)  | <b>728mm</b><br>(7.73KN)  | <b>1028mm</b> (10.92KN)    | <b>1824mm</b> (19.36KN)     | <b>1300mm</b> (13.80KN)    | <b>1535mm</b> (14.75KN)     |
|         | 1500 N/m             | <b>160mm</b> (4.44KN)    | <b>269mm</b><br>(6.52KN)  | <b>313mm</b><br>(7.60KN)  | <b>359mm</b><br>(7.73KN)  | <b>507mm</b> (10.92KN)     | <b>900mm</b> (19.36KN)      | <b>641mm</b> (13.80KN)     | <b>757mm</b> (14.75KN)      |

Base upon rail diameter being the same as the upright but using BS EN 10255 medium wall tubing.

Design Loads are as stated in BS 8118, BS 6180, BS 6399 & BS 7818.

The above bay sizes are based upon using the KEE KLAMP Type 62 base fitting fixed perpendicular to the line of the handrails.

The figures shown in brackets are the required anchor pull out loads for the bay size indicated after all reduction factors have been applied.

| Kee   | Tube Size            | <b>6</b><br>3.38mm    | <b>7</b><br>3.56mm | <b>8</b><br>4.05mm | <b>9</b><br>4.06mm |  |
|-------|----------------------|-----------------------|--------------------|--------------------|--------------------|--|
| Lite  | Grade                | 6082<br>T6            | 6082<br>T6         | 6082<br>T6         | 6082<br>T6         |  |
| Load  | Design Load Criteria | Upright Height 900mm  |                    |                    |                    |  |
| ad    | 360 N/m              | 720mm                 | 1388mm             | 1879mm             | 2490mm             |  |
| 요     | 740 N/m              | N/A                   | N/A                | 1220mm             | 1940mm             |  |
| Chart | Design Load Criteria | Upright Height 1000mm |                    |                    |                    |  |
|       | 360 N/m              | 540mm                 | 1117mm             | 1664mm             | 2370mm             |  |
|       | 740 N/m              | N/A                   | N/A                | 950mm              | 1690mm             |  |
|       | Design Load Criteria | Upright Height 1100mm |                    |                    |                    |  |
|       | 360 N/m              | 400mm                 | 871mm              | 1398mm             | 2205mm             |  |
|       | 740 N/m              | N/A                   | N/A                | 730mm              | 1400mm             |  |

#### **Notes**

- The table is based on the maximum permissible bending moment of the tube
- All rails are the same tube size as uprights but in BS EN 10255 medium grade tube
- Where tube is to be used to form ground sockets: Tube size 6 fits inside tube size 7 medium grade only Tube size 8 fits inside tube size 9 all grades.

Based upon rail diameter being the same size & grades as the upright. Design Loads are as stated in BS 8118, BS 5950, BS 6180, BS 6399 & BS 7818. To achieve bigger bay sizes than those stated please contact Kee Safety Ltd for further details.

KEE LITE components are made from high grade Aluminium Silicon Magnesium Alloy.

- Recommended set screw torque is 39Nm
- Minimum slip load capacity on aluminium tube: 7.56KN (safety factor = 2 with tube having a minimum UTS of 275 N/mm2)
- Large grubscrews are designed to resist thread stripping
- The core range of KEE LITE fittings has undergone independent testing by TÜV.



## Handrails for People with Disabilities

#### **Key Features**

KEE ACCESS components are used to create safety handrails and barriers compliant with disability legislation. The KEE ACCESS range of cast iron fittings was developed to help satisfy the requirements of the Equality Act 2010.

Under the terms of the Equality Act, reasonable adjustments need to be made to public and commercial establishments to overcome physical barriers which prevent disabled access. The Building Regulations recommend an outside diameter tube size for installations of between 40mm - 45mm. KEE ACCESS components are specifically designed to give a smooth and continuous handrail with size 7 tube (outside diameter 42.4mm) ensuring compatibility with the regulations.

All fittings can be powder coated in a choice of RAL colours to meet the visibility and 'not cold to the touch' requirements of the building regulations. These fittings are ideal as a retrofit solution, because the range includes an "Add-on" offset fitting to allow a new handrail to be added onto an existing structure of appropriate size.

#### **Technical Information**

KEE ACCESS fittings are designed to suit BS EN 10255 (ISO 65) steel tubes. Fittings are made of galvanised cast iron to BS EN ISO 1461 for long term maintenance.

#### Compliance

- Conforms to regulatory requirements of the Equality Act
- Meets the requirements of Building Regulations Part M and British Standard BS 8300

- Meet the requirements of the Equality Act 2010 and Building Regulation Approved Document M
- Combining 42.2mm handrail with 48.3mm uprights ensures a rigid, sturdy installation
- Add-on components allow non-compliant systems to be upgraded
- Available in all RAL colours to contrast with the surroundings
- A flexible system that can accommodate on site variations
- Cost effective to install no welding, threading or bolting required







## Warehouse Barriers

#### **Key Features**

Avoid machinery collisions into walls, corners, racking units, posts and pipes with our range of upright protectors.

Suitable for warehouses, factories, public buildings or office blocks, the range can be used both indoors and outdoors. Made of hot dipped galvanised steel for durability, our uprights are also powder coated in RAL 1021 (Rape Seed Yellow) for extra visibility.

The KWIK KIT range of warehouse protectors has been designed and tested in accordance with the BS EN 15512:2009. The standard states that an upright protector should be positioned at the end of each run of racking between cross-aisles and at uprights, which are positioned at aisle and gangway intersections. The KWIK KIT uprights are all a minimum of 400mm tall, and dynamic tests have been conducted to ensure that the minimum energy absorption of 400Nm is achieved. All KWIK KIT barriers are manufactured from size 8 (48.300mm) KEE KLAMP fittings and tubing with a 3.2mm wall.

#### Compliance

BS EN 15512:2009

#### Applications

- An upright protector with a min height of 400 mm needs to be positioned at the end upright of each run of racking between cross-aisles.
- An upright protector shall be positioned at those uprights positioned at all aisle and gangway intersections.
- The upright protector will absorb an energy of at least 400Nm in any direction at any height between 100 and 400mm.















## Self Closing Safety Gates

#### **Key Features**

KEE GATE self closing safety gates are ideal for protecting access and egress on rooftops and in industrial environments. The gates have been designed to easily fit to new or existing structures wherever a gate is required. Each safety gate is spring loaded so it automatically closes behind the user. This overcomes the potential for human error that is often associated with traditional forms of protection such as chains or bars where incorrect usage can lead to the creation of a hazardous void.

KEE GATE self closing safety gates are made from galvanised steel and can be cut down to size to fit into the required opening. The gates can be supplied powder coated in RAL 1021 (Rape Seed Yellow) for extra visibility.

#### Compliance

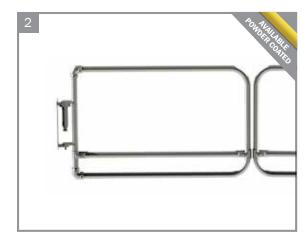
The KEE GATE range has been independently tested to ensure the gates comply with international standards such as EN 13374 and EN 14122 Parts 3 and 4.

#### **Applications**

- Single width gates for openings up to 1m
- Double width gates for larger openings greater than 1m wide
- Full height gates for ladders, designed to comply with EN 4211: specification for Permanently Fixed Ladders

| No.    | Part Name   | Part Code            |
|--------|---|----------------------|
| 1<br>1 | SINGLE WIDTH GATES Single EU Gate - Galvanised Single EU Gate - Powder Coated                       | SGEUGV2<br>SGEUPC2   |
| 2 2    | DOUBLE WIDTH GATES  Double Gate - Galvanised  Double Gate - Powder Coated                           | SGEUDGV2<br>SGEUDPC2 |
| 3      | FULL HEIGHT GATE Single Full Height EU Gate - Galvanised Single Full Height EU Gate - Powder Coated | SGEUFGV<br>SGEUFPC   |









### Pallet Gates

#### **Key Features**

Kee Safety's pallet gates have been designed specifically to allow goods to be moved safely up or down from mezzanines or raised working surfaces.

The range is easy to install or retro-fit to guardrails and barriers where openings need to be protected, such as on mezzanines in warehouses and logistics centres. Each gate is counterbalanced for a positive open and close action, adding to the gate's ease of operation.

KEE GATE pallet gates are fully adjustable in width and are available in four different models to accommodate the type of operation required.

#### Compliance

• EN ISO 14122 Part 3: 2016

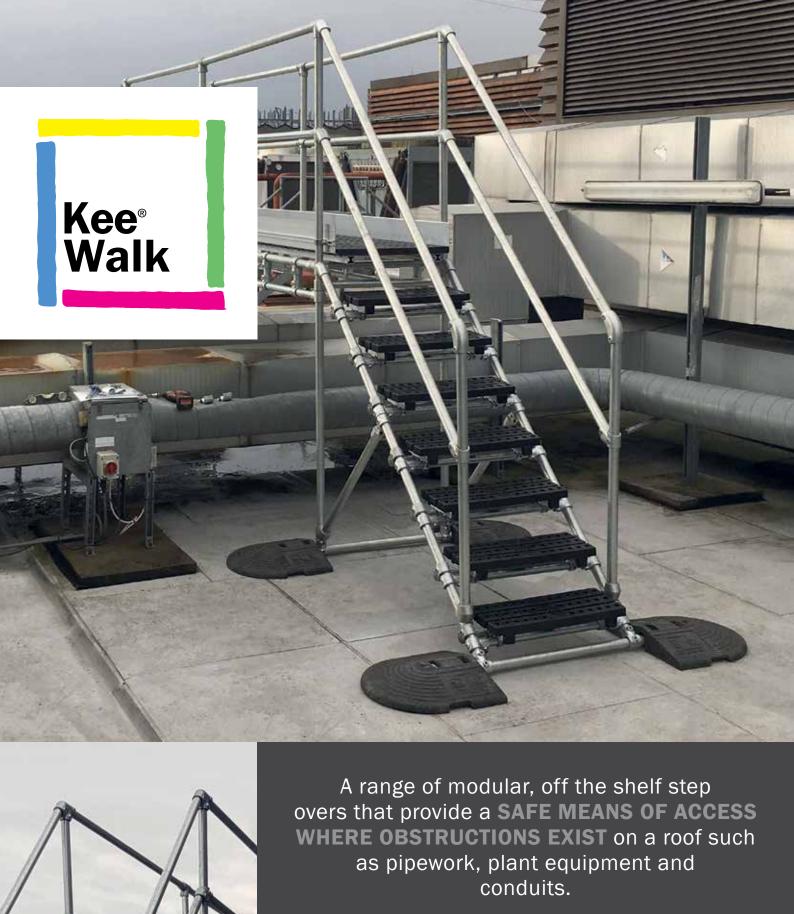
- Available in Galvanised Steel or Aluminium
- Constructed from KEE KLAMP and KEE LITE fittings
- Cycle tested for 50,000 openings for guaranteed durability
- **Part Name Part Code** 1 Pallet Gate Type A - Galvanised **SGPGTYAGV** (1.48m x 1.40m) 91Kg 1 Pallet Gate Type A - Powder Coated **SGPGTYAPC** (1.48m x 1.40m) 91Kg 2 Pallet Gate Type B - Galvanised **SGPGTYBGV** (1.48m x 1.40m) 85Kg 2 Pallet Gate Type B - Powder Coated **SGPGTYBPC** (1.48m x 1.40m) 85Kg 3 Pallet Gate Type C - Galvanised **SGPGTYCGV** (1.48m x 1.40m) 125Kg 3 Pallet Gate Type C - Powder Coated **SGPGTYCPC** (1.48m x 1.40m) 125Kg 4 Pallet Gate Type D - Aluminium **SGPGTYDAL** (1.9m x 1.4m) 77Kg
- Salt spray tested for corrosion resistance
- Supplied part assembled for ease of on-site installation

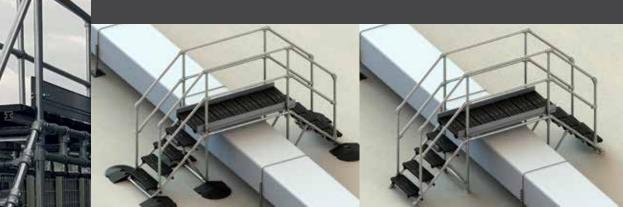












## **Modular** Step Over Kits

#### **Key Features**

A range of modular, off-the-shelf step overs that provide a safe means of access where obstructions exist on a roof such as pipework, plant equipment and conduits.

KEE WALK Step Overs are available in kit format, supplied flat packed with full assembly instructions to allow quick and easy installation. The kits are suitable for use on a variety of roof types and surfaces including concrete, membrane, metallic and composite.

Available in standard off-the-shelf kits to accommodate clearance heights of 200mm, 400mm, 600mm, 800mm, 1000mm, 1200mm and 1400mm.

#### Compliance

- BS EN 14122 Part 3
- BS EN 516 for mini step modules

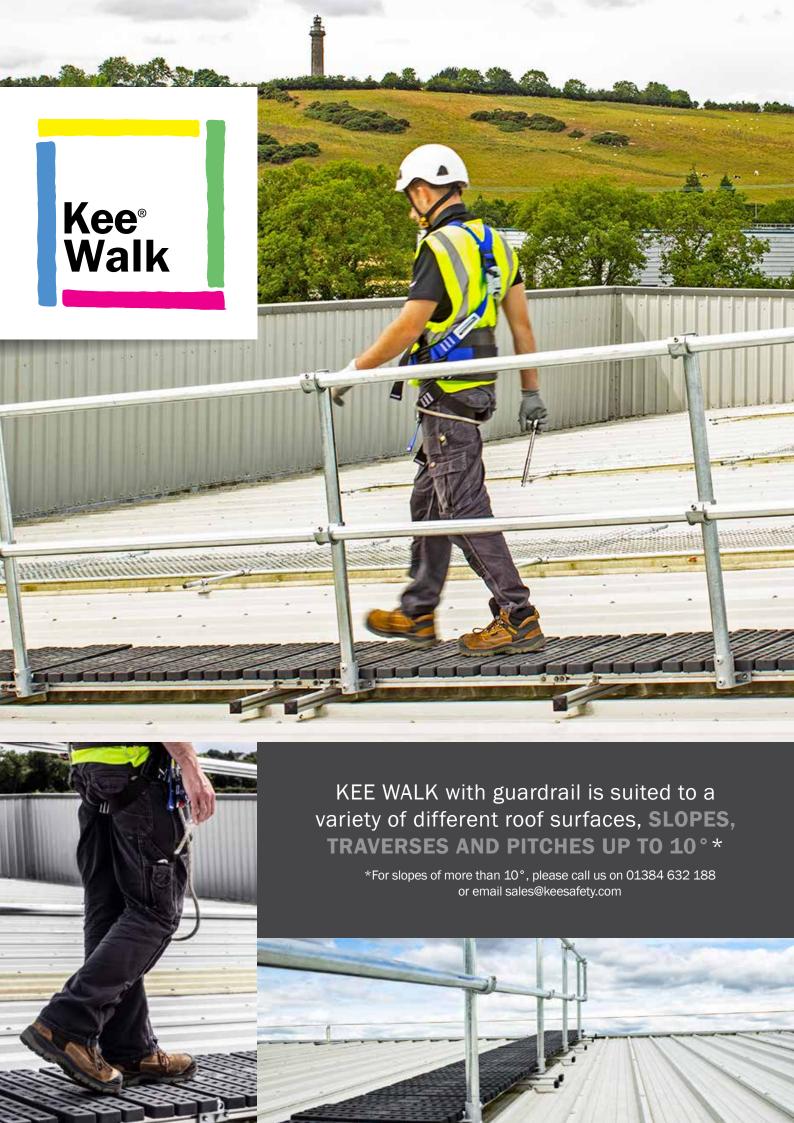
#### **Features & Benefits**

- Standard kits suitable for membrane, asphalt, concrete and PVC roofs
- Also suitable for use in warehouses and factories
- Bespoke options for metal and standing seam roofs available
- Built using KEE KLAMP fittings
- Kits offered in a range of standard sizes
- Supplied flat packed with full assembly instructions

| Product<br>Code  |   |  | Total unit<br>Height   |  |
|--|---|--|--|--|
|  | FREESTANDING MINI STEP MODULES + 52kg WEIG  |  |  |  |
| STMFS2003<br>STMFS2004<br>STMFS2005<br>STMFS4003<br>STMFS4004<br>STMFS4005     | Freestanding - 200mm x 240mm Freestanding - 200mm x 490mm Freestanding - 200mm x 740mm Freestanding - 400mm x 420mm Freestanding - 400mm x 670mm Freestanding - 400mm x 913mm | 720mm<br>970mm<br>1220mm<br>1161mm<br>1411mm<br>1661mm             | 275mm<br>275mm<br>275mm<br>490mm<br>490mm<br>490mm                 |  |
|  | MINI STEP MODULE  | S FIXED  |  |  |
| STMFX2003<br>STMFX2004<br>STMFX2005<br>STMFX4003<br>STMFX4004<br>STMFX4005     | Fixed - 200mm x 463mm  Fixed - 200mm x 713mm  Fixed - 200mm x 963mm  Fixed - 400mm x 463mm  Fixed - 400mm x 713mm  Fixed - 400mm x 963mm                                      | 720mm<br>970mm<br>1220mm<br>1161mm<br>1411mm<br>1661mm             | 275mm<br>275mm<br>275mm<br>490mm<br>490mm<br>490mm                 |  |
|  | FREESTANDING STEP OVERS +   | - 112KG WEIGHTS  | ;  |  |
| STMB600<br>STMB800<br>STMB1000<br>STMB1200<br>STMB1400<br>STMB1212<br>STMB1414 | 600mm x 1000mm<br>800mm x 1000mm<br>1000mm x 1000mm<br>1200mm x 1000mm<br>1400mm x 1000mm<br>1200mm x 1200mm<br>1400mm x 1400mm   | 3265mm<br>3685mm<br>4105mm<br>4525mm<br>5361mm<br>5180mm<br>5850mm | 1900mm<br>2100mm<br>2300mm<br>2500mm<br>2700mm<br>2500mm<br>2700mm |  |
| FIXED STEP OVER  |   | ER   |  |  |
| STCR600<br>STCR800<br>STCR1000<br>STCR1200<br>STCR1400<br>STCR1212<br>STCR1414 | 600mm x 1000mm<br>800mm x 1000mm<br>1000mm x 1000mm<br>1200mm x 1000mm<br>1400mm x 1000mm<br>1200mm x 1200mm<br>1400mm x 1400mm   | 3265mm<br>3685mm<br>4105mm<br>4525mm<br>5361mm<br>4775mm<br>5445mm | 1900mm<br>2100mm<br>2300mm<br>2500mm<br>2700mm<br>2500mm<br>2700mm |  |

# MINI STEP Freestanding or fixed. X and Y = Total obstruction clearance





## KEE WALK with Guardrail

#### **Key Features**

The KEE WALK with Guardrail system from Kee Safety is a fall protection solution consisting of walkway and guardrail which can be installed quickly and easily on a wide variety of roofs.

It is a safe, compliant and modular approach to guardrail protection and eliminates the fall hazard typically present when workers are exposed to an unprotected edge whilst accessing or egressing a roof top.

#### Compliance

- Guardrail compliant to BS EN 14122-3, BS EN 13374 & OSHA requirements
- Kee Walk Walkway compliant to Pre-Fabricated Accessory EN 516 – Class 1-C

- KEE WALK walkway with guardrail offers a complete safe and cost-effective, non-corrosive protection of the highest order whilst maintaining simple and quick installs
- Can be used in conjunction with our range of steps, platforms and step-overs when negotiating changes in level
- Manufactured in the UK
- Designed for use on all major roofing systems and up to 35° roof pitch
- Slip resistant

| No.                        | Part Name  | Part Code   |
|----------------------------|--|---|
| 1 2                        | KEE WALK GUARDRAIL MODULES  3m Traverse module with single sided rail  3m Traverse module with double sided rail | KWGR1S3MT<br>KWGR2S3MT  |
| 3                          | 3m <b>Longitudinal</b> module with single sided rail 3m <b>Longitudinal</b> module with double sided rail        | KWGR1S3ML<br>KWGR2S3ML  |
| 5                          | HORIZONTAL STEEL TUBE Rail Tube Sold per m (Typically sold 6.4m or 3.2m)   | 8-6-G   |
| 6<br>7<br>8<br>9           | KEEGUARD - TOE-BOARD  Toe Board (Typically sold 6m)  Straight Connector  Right Angle Connector  Fixing Pack      | TB150<br>TB2<br>TB2C<br>TBFP1                                 |
| 10<br>11<br>12<br>13<br>14 | KEE KLAMP - COMMON FITTINGS Straight Coupling Elbow Adjustable Elbow Wall Flange Ladder Clamp                    | 14-8<br>15-8<br>BC53-88<br>61-8<br>SL109C                     |
| 15<br>16<br>17<br>18<br>19 | KEE WALK - END DETAIL Corner Single D-Return Double D-Return Single End Double End                               | WWGRCRN10<br>WWGRRTS10<br>WWGRRTD10<br>WWGRENS10<br>WWGREND10 |
| 20<br>21                   | KEE WALK FIXING PACK Metal profile roof fixing pack Standing seam roof fixing pack                               | WW760FP10<br>WW764FP10  |













































Part Code

KGU29

KGU29T

KGU35

KGU35T

8-6-G

CB1P

CB2P

CB3P

CB4P

CB5P

TB150

TB2

TB2C

TBFP1

14-8

15-8

61-8

77-8

**DRET** 

SL109C

K435

K4310

K5510

K5505

BC53-88

19-88

## Free Standing Edge Protection

No.

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**Part Name** 

Upright EN 13374

Upright EN 14122

**HORIZONTAL STEEL TUBE** 

**KEEGUARD - TOE-BOARD** 

Right Angle Connector

Straight Connector

Straight Coupling

Adjustable Elbow

Ladder Clamp

Fixing Pack

Wall Flange

Plastic Cap

D-Return

Elbow

Toe Board (Typically sold 6m)

**KEE KLAMP - COMMON FITTINGS** 

Adjustable Side Outlet Tee

**KEEGUARD - ELASTOMERIC PADS** 

400 x 300 x 5 For KGU Mineral Felt

500 x 500 x 5 For 440 Mineral Felt

400 x 300 x 10 For KGU Asphalt

500 x 500 x 10 For 440 Asphalt

**KEEGUARD - UPRIGHT ASSEMBLIES** 

**KEEGUARD - UPRIGHT ASSEMBLIES** 

Upright with Toe Board bracket (Toe Board separate)

Upright with Toe Board bracket (Toe Board separate)

Rail Tube Sold per m (Typically sold 6.4m or 3.2m)

**KEEGUARD - COUNTER-BALANCE ASSEMBLIES** 

**End Counterbalance Assemblies** 

**End Counterbalance Assemblies** 

**End Counterbalance Assemblies** 

End Counterbalance Assemblies

Intermediate Counterbalance Weight Assembly

#### **Key Features**

A free-standing fall protection solution that works on a proven counterweight system. KEEGUARD has been designed to provide permanent roof edge protection for areas where regular access for maintenance and inspection is required. **The system does not penetrate the roof membrane**.

By using a KEEGUARD system you can ensure the safety of anyone who has access onto a flat roof. The system is supplied in modular kit format, with a minimum number of assemblies so is quick and easy to install.

KEEGUARD is suitable for use on concrete, asphalt, PVC membrane and felt roof surfaces, up to a 10° pitch.

#### Compliance

EN 13374 Class A / EN ISO 14122 Part 3









































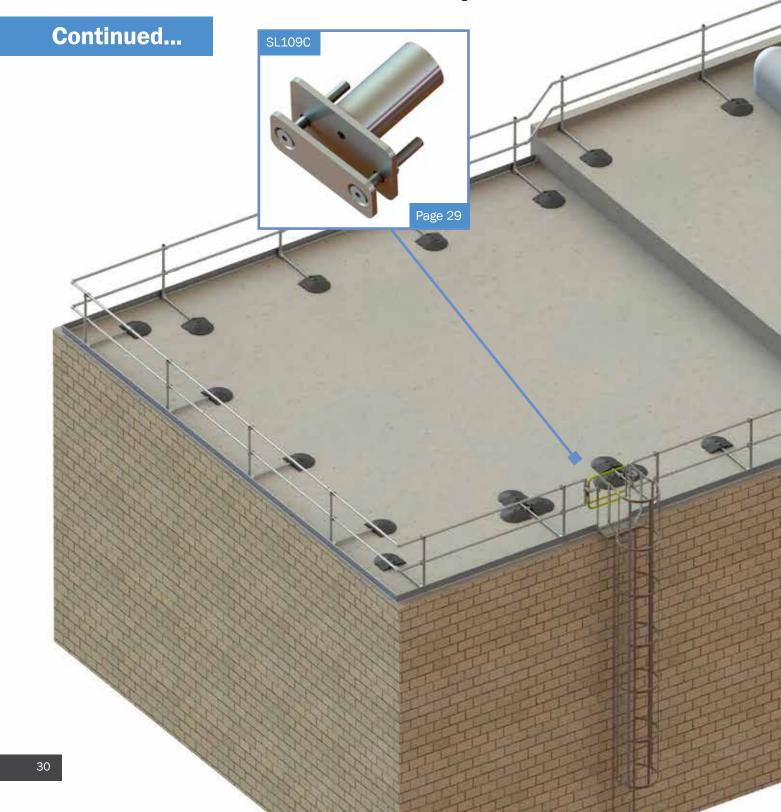


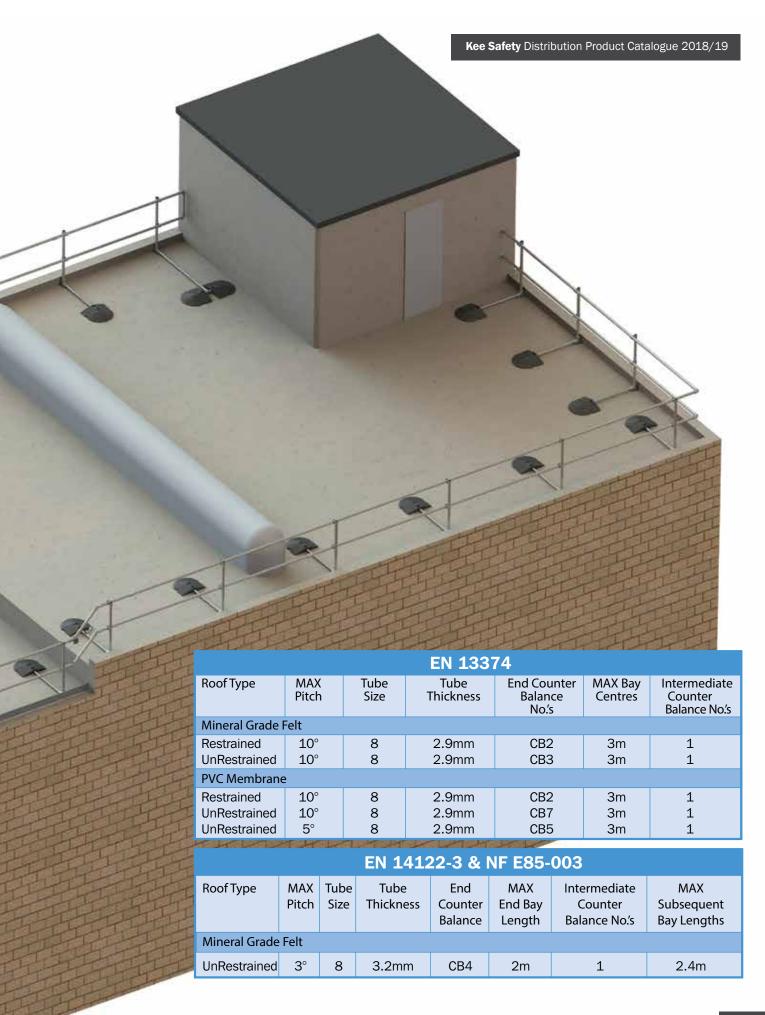






- Provides collective fall protection for anyone working at heights
- Meets the requirements of the 'Work at Height Regulations'
- Suitable for use on concrete, asphalt, PVC membrane and felt roof surfaces
- Designed to work on roofs up to a 10° pitch
- Elastomer pads under the weights prevent damage to the roof surface
- Design load of 300 N/m applied horizontally along the top rail
- Open cup fitting for quick installation
- Sections can be added to and changed on-site







## **Aluminium** Roof Edge Protection

#### **Key Features**

KEEGUARD Lite provides permanent edge protection for areas where regular access to the roof for maintenance and inspection is required. The system is ideal for harsh environments due to its high corrosion resistance. It can also be used in situations when aesthetics are important.

KEEGUARD Lite incorporates aluminium uprights and tube, and maintains its stability by using a steel base fitting, steel counterbalance arm and a 25Kg weight. As this is a free-standing system, it does not require any physical fixing into the roof's structure/membrane.

#### Compliance

- EN 13374 Class A
- EN ISO 14122 Part 3

- Safe, reliable and versatile collective fall protection solution
- Does not penetrate the roof fabric
- Lightweight & corrosion resistant
- Minimal long-term maintenance keeps on-going costs down
- Available for standard, radiused and raked uprights

















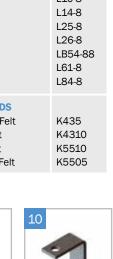








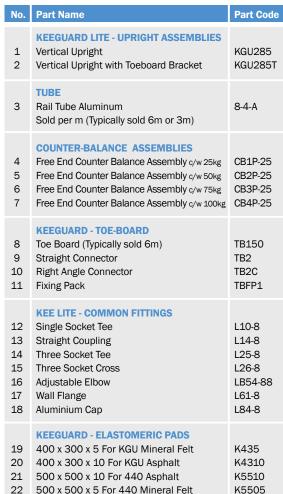


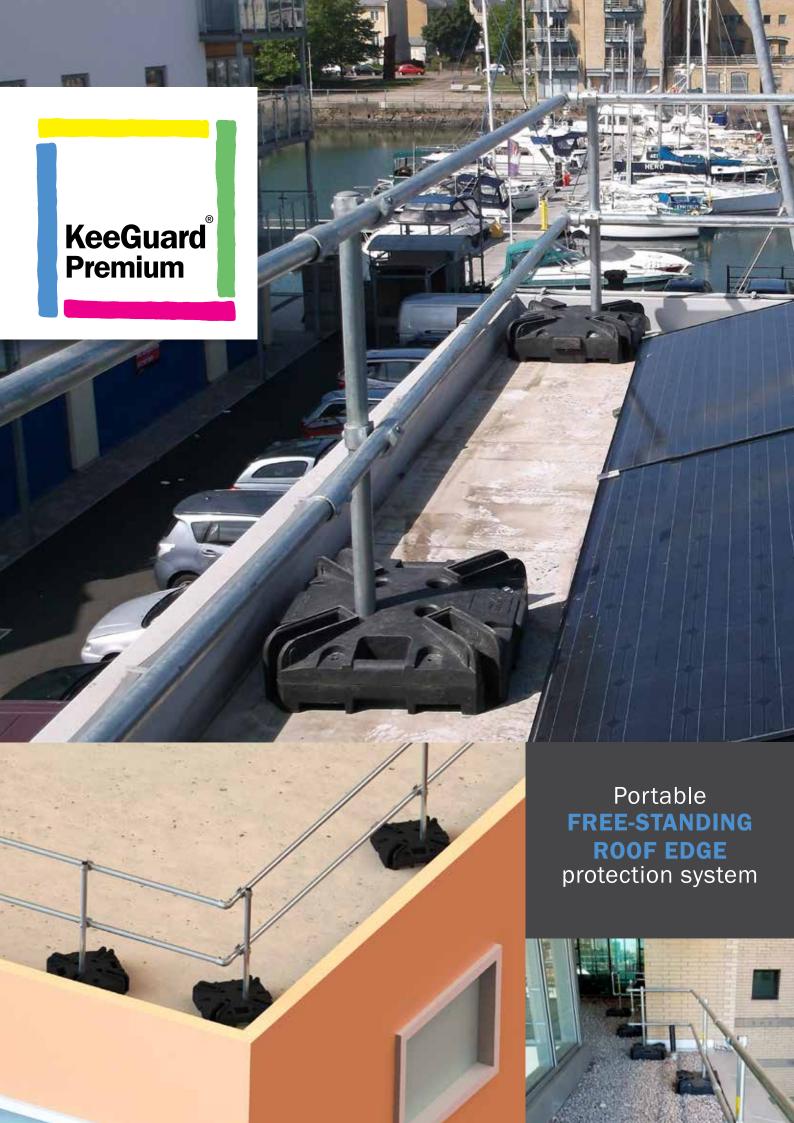












## Portable Roof Edge Protection

#### **Key Features**

KEEGUARD Premium provides an innovative and unrivalled approach to guardrail systems. It is ideal for roofs with limited space such as those where solar panels have been installed.

Designed as a modular free-standing system, a key benefit of KEEGUARD Premium is that it does not require counter weights along the full run of the system. This provides the ideal solution for areas where traditional counter weights are unsuitable or potential trip hazards.

The system is suitable for both temporary and permanent applications on roofs of up to 10° pitch.

#### Compliance

• EN 13374 Class A

- Free standing edge protection
- Ideal for roofs with limited space
- Smaller footprint than counterweighted systems
- Can be used as temporary or permanent protection
- Quick and easy to install

| No   | Part Name   | Part Code  |
|--|---|--|
| 1 2  | KEEGUARD PREMIUM Upright Assembly Excluding Base PVC Base weight 40kg   | KGUC<br>220-8  |
| 3  | COUNTER-BALANCE ASSEMBLIES End Counterbalance Assemblies  | CB3P   |
| 4  | STEEL TUBE Rail Tube Sold per m (Typically sold 6.4m or 3.2m)   | 8-6-G  |
| 5<br>6<br>7<br>8<br>9                        | KEEGUARD - TOE-BOARD  Toe Board (Typically sold 6m)  Straight Connector  Right Angle Connector  Fixing Pack  Premium Toeboard Plate           | TB150<br>TB2<br>TB2C<br>TBFP1<br>TB255                             |
| 10<br>11<br>12<br>13<br>14<br>15<br>16<br>17 | KEE KLAMP - COMMON FITTINGS Straight Coupling Elbow Adjustable Side Outlet Tee Wall Flange Plastic Cap Adjustable Elbow D-Return Ladder Clamp | 14-8<br>15-8<br>19-88<br>61-8<br>77-8<br>BC53-88<br>DRET<br>SL109C |

























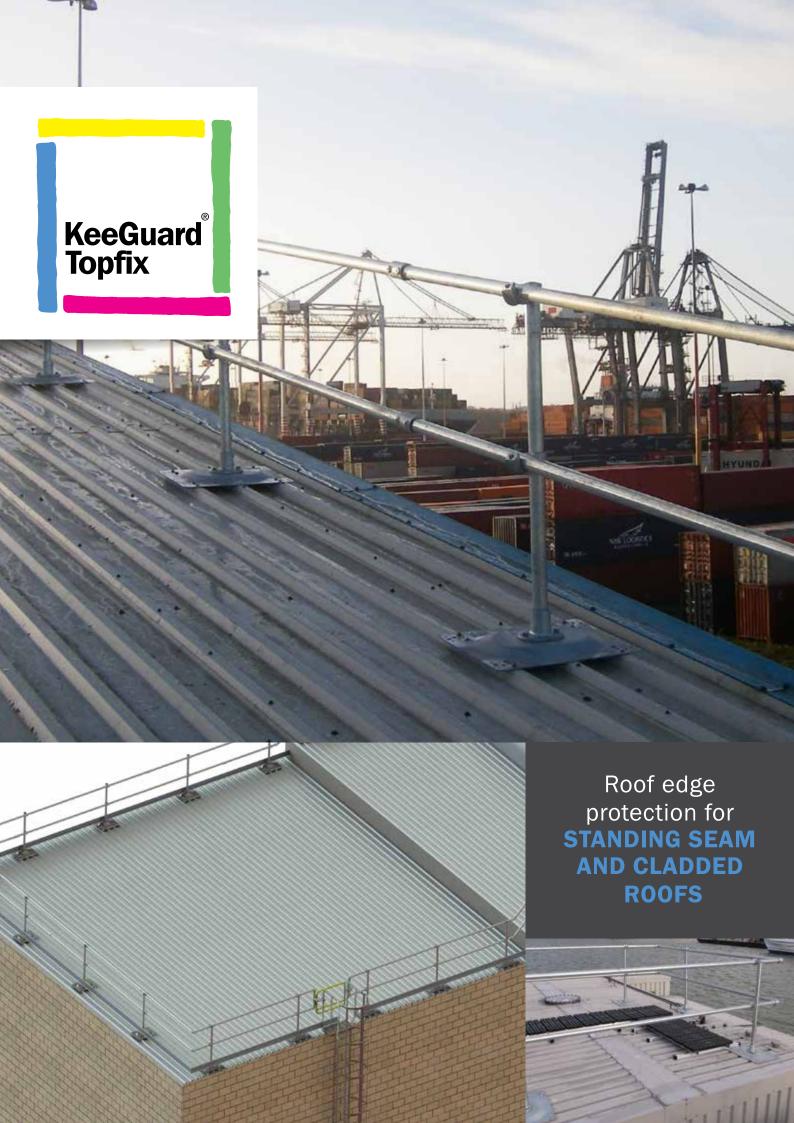












## Edge Protection for Cladded Roofs

### **Key Features**

KEEGUARD Topfix provides collective roof edge protection specifically for metal profile and standing seam roofs up to 45° pitch. The system features a base plate with multiple fixing centres which is fixed directly to the profile sheeting via rivets or non-penetrative two-part clamps. The unique plate design allows the system to be fitted to a wide range of profile sheet centres.

The plate also provides the support for the vertical standard leg which can be adjusted from 0° to 11°. The horizontal rails are then simply fitted to the open saddle fittings to provide a complete collective solution.

#### Compliance

EN 13374 Class A / EN ISO 14122 Part 3

### **Fixing Centres**

- For standing seam roofs: 305, 400 and 500mm
- For trapezoidal profile roof panels: 310, 333, 400 and 500mm

- Suits a wide range of metal profile and standing seam roofs
- Modular off-the-shelf system
- Available in galvanised steel or aluminium finish
- Non-penetrative on standing seam roofs
- Watertight fixings for metal profile roofs maintain the roof's integrity

| No.                                    | Part Name   | Part Code  |
|--|---|--|
| 1 2                                    | KEEGUARD TOPFIX Upright assembly (c/w baseplate) Upright with Toe Board (Toe Board separate)  | KGTF29<br>KGTFLEG  |
| 3<br>4<br>5                            | KEEGUARD TOPFIX - FIXINGS Keeline 20mm x 3mm Butyl Sealing Strip 15mtr Roll 7.7 Buld Title Rivit EPDM Sealing Washer Qty 100 Standing Seam Clamps Pack of 4 | TA-SEAL KL2RIVIT WFP6                                    |
| 6                                      | STEEL TUBE Rail Tube - sold per m (Typically sold 6.4m or 3.2r  | 1)8-6-G  |
| 7<br>8<br>9<br>10                      | KEEGUARD - TOE-BOARD Toe Board (Typically sold 6m) Straight Connector Right Angle Connector Fixing Pack   | TB150<br>TB2<br>TB2C<br>TBFP1                            |
| 11<br>12<br>13<br>14<br>15<br>16<br>17 | KEE KLAMP - COMMON FITTINGS Straight Coupling Elbow Adjustable Side Outlet Tee Wall Flange Plastic Cap Adjustable Elbow D-Return                            | 14-8<br>15-8<br>19-88<br>61-8<br>77-8<br>BC53-88<br>DRET |

























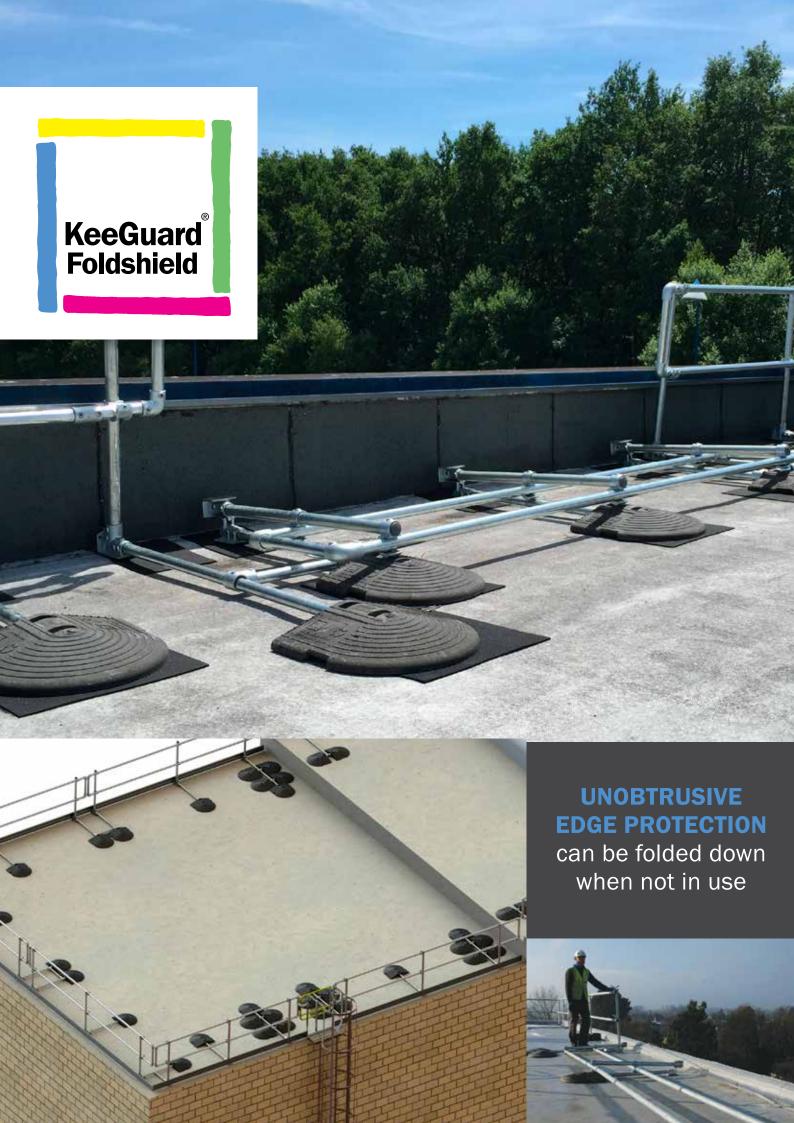












## Folding Free-standing Edge Protection

#### **Key Features**

When collective protection is the preferred method of providing a safe working environment but it is not desirable to have railings permanently visible on the roofline of a building, KEEGUARD Foldshield provides an ideal solution.

Designed for use on slopes up to 10° the system is suitable for use on asphalt, concrete, mineral felt or PVC sheet covered roofs.

The unique hinged base foot enables the guardrail to be quickly and easily lifted into place when work is being carried out, then simply folded back down again when the work is completed.

#### Compliance

EN 13374 Class A / EN ISO 14122 Part 3

- Collapsible collective protection system
- Base fitting can only pivot in one direction
- System can be raised and lowered in sections
- Recycled PVC feet do not penetrate the roof's membrane

| 1-2 | 1 | 9    |
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|     | 4 | 1960 |











| No.  | Part Name  | Part Code  |
|--|--|--|
| 1 2  | KEEGUARD FOLDSHIELD - UPRIGHTS Upright Assembly Upright Assembly With Prop   | KFU1<br>KFU2   |
| 3  | STEEL TUBE Rail Tube - sold per m (Typically sold 6.4m or 3.2m)  | 8-6-G  |
| 4<br>5<br>6<br>7<br>8                        | COUNTER-BALANCE ASSEMBLIES Intermediate Counterbalance Weight Assembly End Counterbalance Assemblies End Counterbalance Assemblies End Counterbalance Assemblies End Counterbalance Assemblies | CB1P<br>CB2P<br>CB3P<br>CB4P<br>CB5P                               |
| 9<br>10<br>11<br>12                          | KEEGUARD - TOE-BOARD  Toe Board (Typically sold 6m)  Straight Connector  Right Angle Connector  Fixing Pack  | TB150<br>TB2<br>TB2C<br>TBFP1                                      |
| 13<br>14<br>15<br>16<br>17<br>18<br>19<br>20 | KEE KLAMP - COMMON FITTINGS Straight Coupling Elbow Adjustable Side Outlet Tee Wall Flange Plastic Cap Adjustable Elbow D-Return Ladder Clamp  | 14-8<br>15-8<br>19-88<br>61-8<br>77-8<br>BC53-88<br>DRET<br>SL109C |
| 21<br>22<br>23<br>24                         | KEEGUARD - ELASTOMERIC PADS<br>400 x 300 x 5 For KGU Mineral Felt<br>400 x 300 x 10 For KGU Asphalt<br>500 x 500 x 10 For 440 Asphalt<br>500 x 500 x 5 For 440 Mineral Felt                    | K435<br>K4310<br>K5510<br>K5505                                    |

































## Guardrail Kit for Roof Top Ladders

### **Key Features**

KEEGUARD Ladder Kit provides permanently fixed guardrail either side of an existing fixed ladder and a self-closing swing gate, permitting safe roof access for the purpose of inspection or maintenance work on roofs.

The kit has been designed specifically to provide a 'retro-fit' solution to existing cat/fixed ladders and has been independently tested & CE approved to BS EN 14122-4. Fixing is quick and easy; the kit has been developed to simply clamp on to the existing ladder. The unique fitting, which connects the guardrail to the ladder, has been designed to clamp around both flat and tubular stringers with a maximum diameter/width of 75mm.

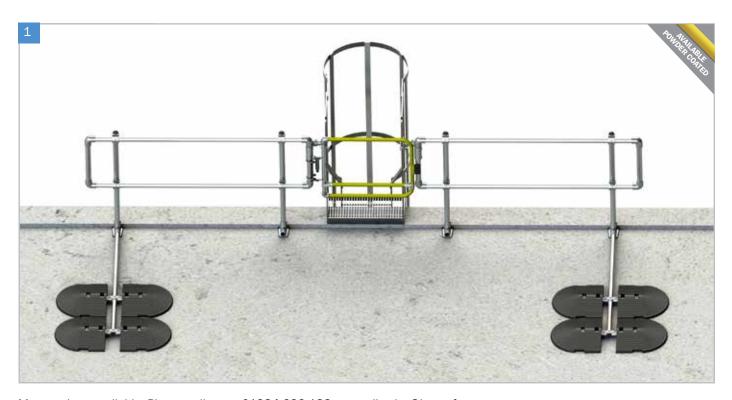
#### Compliance

BS EN 14122-4

#### **Features & Benefits**

- Permanently fixed guardrail either side of an existing fixed ladder with a self-closing swing gate
- Provides safe access to roofs from fixed ladders and prevents falls down either side of the ladder
- Counter balanced system so no damage to the roof membrane or building structure
- Can be "retro-fitted" to existing fixed ladders/ cat ladders
- Easily clamps to most types of ladders

| No. | Part Name  | Part Code |
|-----|--|-----------|
| 1   | KEEGUARD LADDER KIT<br>Ladder Gate Kit - Galvanised Gate | KLKGV     |
|     | Ladder Gate Kit - Powder Coated Gate                     | KLKPC     |



More options available. Please call us on 01384 632 188 or email sales@keesafety.com



# Skylight Fall Protection

### **Key Features**

KEE DOME is a modular system designed specifically to prevent falls through skylights. Recycled PVC bases lock the posts into position around the perimeter of the rooflight. KEE KLAMP fittings and standard length tubes (1.5, 2.0 & 3.2m) are used to construct a rigid frame around the skylight.

Where building aesthetics are a concern, the KEE DOME MINI provides a less obtrusive solution due to its reduced size. This product can be used on skylights from 1.2 m x 1.2 m up to 1.8 m x 1.8 m. This version features smaller recycled PVC bases, tubes and fittings to construct a rigid frame around the rooflight.

| No. | Part Name   | Part Code |
|-----|---|-----------|
|     | KEE DOME KITS   |           |
| 1   | KEE DOME Hatch Guard With Gate<br>1.5m Max x 3.2m Max | KDH1      |
| 2   | KEE DOME Smoke Extractor Guard<br>1.5m Max x 3.2m Max | KDH2      |
| 3   | KEE DOME Hatch Guard Short<br>With Gate 2.0m x 1.5m   | KDH3      |
| 4   | KEE DOME KWIK KIT For 2.0m x 2.0m                     | KDK2      |
| 5   | KEE DOME KWIK KIT For 2.0m x 3.2m                     | KDK3      |
|     | KEE DOME - MINI                                       |           |
| 6   | KEE DOME Mini KWIK KIT 1.2m x 1.2m                    | KDK4      |
| 7   | KEE DOME Mini KWIK KIT 1.8m x 1.8m                    | KDK5      |

#### Compliance

EN ISO 14122 Part 3

- Minimise the risk of falling through glazed areas or open hatches
- Recycled PVC feet do not penetrate the roof membrane
- Suitable for use on all roof surfaces with a maximum pitch of 3°
- Rapid assembly around the designated area

















## **Rooflight** Protection

### **Key Features**

The KEE COVER range of rooflight protection has been designed specifically for use on metal profile roofs and provides effective protection without blocking the light into the building.

KEE COVER is a component based system, allowing ease of transport of components to the roof and assembly on site. Standard mesh panels are supplied 2m long by 1m wide and sit onto the metal frame which is constructed from KEE KLAMP fittings. 2m (or 1m) long by 1m wide extension panels are available for larger rooflights and skylights.

KEE COVER is available in two formats, one that sits virtually flat on the roof surface, and one that is mounted onto small legs to raise it above the rooflight or skylight.

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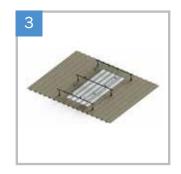
- Tested to EN ISO 1873: 2014 Part 2
- · Complies with the ACR Red Book

- Adaptable solution for covering rooflights on trapezoidal and standing seam roofs
- Mesh panels do not block out light, keeping the building illuminated
- Variable height caters for different shaped roof lights

- **Part Name Part Code** 1 **KEE COVER - STD MODULES - 1M WIDE** KEE COVER 2 x 1m Primary Module - Std KC21PMST1 KEE COVER 2 x 1m Extension Module - Std KC21XMST1 KEE COVER 1 x 1m Extension Module - Std KC11XMST1 2 **KEE COVER - STD MODULES - 2M WIDE** KEE COVER 1 x 2m Primary Module Wide - Std KC12PMST2 KEE COVER 1 x 2m Extension Module - Std KC12XMST2 3 **KEE COVER - RAISED MODULES - 1M WIDE** KEE COVER 2 X 1 Primary Module - Raised KC21PMRA1 KEE COVER 2 X 1 Extension Module - Raised KC21XMRA1 KEE COVER 1 X 1 Extension Module - Raised KC11XMRA1 **KEE COVER - RAISED MODULES - 2M WIDE** KEE COVER 1 x 2 Primary Module - Raised KC12PMRA2 KEE COVER 1 X 2 Extension Module - Raised KC21XMRA2
  - Extension panels available for larger roof lights and skylights
  - All components and mesh panels are hot dip galvanised for enhanced durability
  - Frame can be colour coated for improved visibility











## Portable Deadweight Anchor

### **Key Features**

WEIGHTANKA, a part of the KEE ANCHOR range, is a portable deadweight anchor device for use on roofs of up to 5 degrees pitch. The system has been specifically designed to provide short term safety for low frequency operations where guardrails are not provided, such as for maintenance of flat roofs or plant and equipment installed at roof level.

The portable deadweight anchor is extremely compact, easy to assemble and weighs only 250kg, with no single item weighting greater than 25kg.

WEIGHTANKA is suitable for use on all roof surfaces including single-ply membrane, asphalt, concrete, stone chippings and mineral felt. The system provides fall protection for a single worker and fall restraint for two people when working at least 500mm away from a fall hazard.

#### Compliance

• EN 795: 1997

#### **Features & Benefits**

- Short term safety for low frequency work
- System for up to two users for restraint
- Does not penetrate the roof surface
- Compact design for ease of transportation

| Туре  | of Roof Surface   | _  | antity of<br>ised weights |  |  |  |  |  |
|---|---|--|---------------------------|--|--|--|--|--|
| BITU  | MINOUS  |  |                           |  |  |  |  |  |
| •   | alt Total Mass - 250kg (551lb 3oz)<br>ral Felt Total Mass - 250kg (551lb 3oz) | 6<br>6   |                           |  |  |  |  |  |
| SING  | LE PLY MEMBRANE   |  |                           |  |  |  |  |  |
| (Flat, Smooth) Total Mass - 300kg (661lb 6oz)       8         (Embossed) Total Mass - 400kg (881lb 13oz)       12 |   |  |                           |  |  |  |  |  |
| L009  | SE STONES (ALL LOOSE STONES T   | O BE BR  | RUSHED)                   |  |  |  |  |  |
| On Asphalt Base Total Mass - 250Kgs 6 On Mastic Base Total Mass - 250Kg (551lb 3oz) 6                             |   |  |                           |  |  |  |  |  |
| CON   | CRETE   |  |                           |  |  |  |  |  |
| Total   | Mass - 250kg (551lb 3oz)  |  | 6                         |  |  |  |  |  |
| STEE  | EL CLADDING   |  |                           |  |  |  |  |  |
| Total   | Mass - 300kg (551lb 3oz)  |  | 8                         |  |  |  |  |  |
| No.   | Part Name   |  | Part Code                 |  |  |  |  |  |
| 1 2   | WEIGHTANKA 250Kg - WEIGHTANKA Assembly 300Kg - WEIGHTANKA Assembly            |  | WTA<br>WTAO8              |  |  |  |  |  |
| 3   |   | 50mm EN795-A1 Anchor - Sheradized (1-off) Used only when two users are connected to the system |                           |  |  |  |  |  |
| 4<br>5  | Tommy Bar for Weightanka<br>25Kg Galv Weight                                  |  | DWA-TOMMY<br>DWA101/2     |  |  |  |  |  |





7







**POLYWASH** 

PPEDISC-FA PPEDISC-FR







Polywash 38mm O/D. Sealing Washer

P.P.E Warning Disc - Fall Arrest

P.P.E Warning Disc - Fall Restraint



# Safety Signs Range

### **Key Features**

The KEE SIGN range of safety signs helps ensure a safer environment for workers and members of the public by clearly indicating potential hazards, restricting access to dangerous areas or reminding workers of mandatory actions such as wearing safety harnesses.

The safety signs can be mounted onto most roofs thanks to a variety of fixing kit options, and can also be installed indoors. The signs themselves are made from solid, impact resistant aluminium plate with a high-quality screen printed design for maximum durability and UV resistance.

### **Fixing Signs**

Kee Safety's signs can be fixed using various different methods:

- An aluminium L-shaped bracket fixing pack for attaching signs to metal roofs.
- A nylon base fixing pack which can be attached to a flat roof using a suitable adhesive
- The A13 KEE KLAMP Add-on Safety Sign fitting

| No.              | Part Name  | Part Code                            |
|------------------|--|--------------------------------------|
| 1<br>2           | MANDATORY SIGNS Personnel Only No Pedestrian Access  | SENNP1<br>SENNA1                     |
| 3<br>4<br>5<br>6 | WARNING SIGNS  Danger Drop  Danger Fragile Roof  Danger Slippery Surface  Danger Trip Hazard | SENDD1<br>SENFR1<br>SENSS1<br>SENTH1 |
| 7<br>8           | Harness Must Be Worn<br>Pedestrians Must Use This Route                                      | SENHA1<br>SENPM1                     |
| 9<br>10          | KEE KLAMP SIGN FITTING KEE KLAMP Sign Fitting 42.4 O/D KEE KLAMP Sign Fitting 48.3 O/D       | A13-7<br>A13-8                       |
| 11               | FIXING BRACKET Aluminium L Bracket   | SLBFP1                               |
| 12               | PVC PLASTIC BASE<br>Nylon Base   | SMBFP1                               |

### Compliance

ISO710



























## Free-standing Demarcation

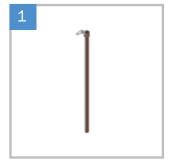
#### **Key Features**

Kee Safety's high visibility, maintenance free demarcation system is ideal for providing demarcation around plant, equipment and fragile materials or as an economical solution to guardrail, providing it is placed at least 2m from the roof edge.

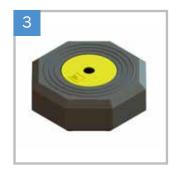
The system is compact making it portable and easy to assemble. The unique post design with a heavy duty PVC base weighing 25kg prevents the system from falling during severe weather conditions. Kee Safety's demarcation system is further enhanced by a high visibility, two colour, polyurethane chain which links between the support posts.

| No.    | Part Name  | Part Code      |
|--------|--|----------------|
| 1 2    | KEE MARK - UPRIGHTS  Kee Marcation Upright - Single Chain Kee Marcation Upright - Twin Chain | KMUP1<br>KMUP2 |
| 3      | KEE MARK - BASE Base For Kee Marcation Upright   | KMBASE200      |
| 4<br>5 | KEE MARK - CHAIN 6mm Plastic Chain (Sold per 25m) 6mm Steel Chain (Sold per 100m)            | KMC<br>KMCS    |

- High visibility demarcation system
- Cost-effective
- Quick and easy to install
- Durable, maintenance free system
- Compact design provides ease of transportation and storage











## Blind Cavity Fixing

#### **Key Features**

BOXBOLT is a fully tested and approved blind fixing solution for connecting in to a steel cavity, whether it be hollow section steelwork or where access is restricted to one side only. The system provides an economical solution to making blind connections, when compared with traditional methods such as welding or bolting through.

BOXBOLT is suitable for use with rectangular, square and even circular hollow sections. It is a perfect fixing solution for when installation time needs to be kept to a minimum. BOXBOLT is available in three finishes; zinc plated for the less aggressive environments, hot dip galvanized for the more aggressive environments, and stainless steel for the most demanding of applications.

#### Compliance

- CE marked
- Approved for use by Lloyds Register (LR) type approval





#### **BOXBOLT Technical Information**

BOXBOLT is often used on high profile projects where the aesthetics of the building are essential. It is for this reason the BOXBOLT can be adapted to suit the requirements of the client and the architect to make the connection pleasing to the eye. The most common versions we can offer are shown here. Should you require a different style then please contact our technical department.

#### **Features**

No access to both sides of the connection required

No need for close tolerance holes or tapping

No special tools required - two spanners only

Installation by semi-skilled labour

Only BOXBOLT head visible when installed

Approved for use by Lloyds Register Type and CE Mark

Exceptional shear loading performance

AISC and Eurocode 3 Method for designing connections

BOXSOK rapid installation tool

#### **Advantages**

Connection can be made blind for connections into hollow section or where access is restricted

New holes can be drilled quickly on-site if required

No hire/purchase of specialist equipment or the need to move around heavy equipment

Connections can be made much quicker without special skills or equipment

Third party accreditation for use in tensile and shear applications

Less BOXBOLT fixings can be used to make shear connections

Provides a simple to follow design procedure that is the same as standard bolted connections

Unique installation tool for speeding up installation time

#### **Benefits**

No through bolting or strapping required reducing fabrication work

Flexibility and reduced on-site installation time

Reduction in installation cost and administration

Reduction in labour and hire costs

Flexibility in architectural design

Confidence that the connection will perform as stated without site proof testing required

Flexibility in design and possible cost reductions

Designers easily recognise the method and can save costs on competitive methods

Reduction in on-site labour costs



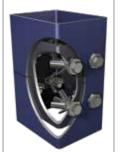
Button head socket



head

Hexagon





Hollow section sleeve connection creating an aesthetic ioint from the outside

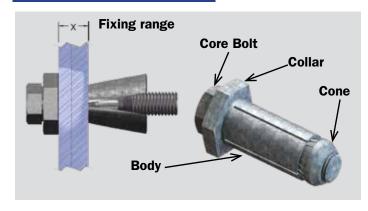


Side fixing of handrail base to hollow section



Glazing bracket to hollow section

#### **BOXBOLT Hollow Section Fixings**



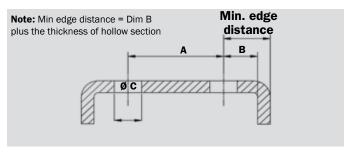
#### **Materials**

Mild steel to **BS EN 10083** Grade **1.1151** Stainless steel to **BS EN 10088** Grade **1.4401** 

#### **Finishes**

Zinc plated to **BS EN 12329**: Class **Fe//Zn8//A**Hot Dip Spun Galvanised to **BS EN ISO 1461** 

| Diameter and positioning of holes |       |           |    |              |  |  |  |  |  |  |  |
|-----------------------------------|-------|-----------|----|--------------|--|--|--|--|--|--|--|
| Dia.                              | Dim A | Tolerance |    |              |  |  |  |  |  |  |  |
| M06                               | 30    | 11        | 11 | +1,00, -0,25 |  |  |  |  |  |  |  |
| M08                               | 35    | 13        | 14 | +1,00, -0,25 |  |  |  |  |  |  |  |
| M10                               | 40    | 15        | 18 | +1,00, -0,25 |  |  |  |  |  |  |  |
| M12                               | 50    | 18        | 20 | +1,00, -0,25 |  |  |  |  |  |  |  |
| M16                               | 55    | 20        | 26 | +2,00, -0,25 |  |  |  |  |  |  |  |
| M20                               | 70    | 25        | 33 | +2,00, -0,25 |  |  |  |  |  |  |  |



Select the type of finish you require on the **BoxBolt** by replacing the \_ in the code with a **Z** for zinc plated, a **G** for Hot Dip Galvanised or an **S** for Stainless Steel. Example: **BQ2G12** is a **M12 BoxBolt** size **2** in **Hot Dip Galvanised** Finish.

#### **BOXBOLT Technical Data**

| Part Number & description |                 |      | Dimensional information    |    |                      |                                   |                             |               |               | Technica          | al             | Load information               |                              |                             |                           |
|---------------------------|-----------------|------|----------------------------|----|----------------------|-----------------------------------|-----------------------------|---------------|---------------|-------------------|----------------|--------------------------------|------------------------------|-----------------------------|---------------------------|
| BoxBolt                   | Product<br>code | Size | Setscrew<br>length<br>(mm) |    | range<br>n x)<br>Max | Across Flats<br>of collar<br>(mm) | Collar<br>thickness<br>(mm) | Dim A<br>(mm) | Dim B<br>(mm) | Hole size<br>(mm) | Torque<br>(Nm) | Galvanised/<br>Tensile<br>(kN) | Zinc Plated<br>Shear<br>(kN) | Stainles<br>Tensile<br>(kN) | ss Steel<br>Shear<br>(kN) |
| M06                       | BQ1Z06*         | 1    | 45                         | 4  | 24                   | 17                                | 5                           | 30            | 11            | 11 +1.0,-0.25     | 13             | 5.71                           | 16.21                        | /                           | /                         |
|                           | BQ1_08          | 1    | 50                         | 5  | 26                   | 22                                | 6                           | 35            | 13            | 14 +1.0,-0.25     | 25             | 12.86                          | 21.07                        | 13.29                       | 26.14                     |
| M08                       | BQ2_08          | 2    | 70                         | 18 | 46                   | 22                                | 6                           | 35            | 13            | 14 +1.0,-0.25     | 25             | 12.86                          | 21.07                        | 13.29                       | 26.14                     |
|                           | BQ3_08          | 3    | 90                         | 30 | 66                   | 22                                | 6                           | 35            | 13            | 14 +1.0,-0.25     | 25             | 12.86                          | 21.07                        | 13.29                       | 26.14                     |
|                           | BQ1_10          | 1    | 50                         | 5  | 23                   | 24                                | 7                           | 40            | 15            | 18 +1.00.25       | 45             | 24.07                          | 37                           | 21.07                       | 47.07                     |
| M10                       | BQ2_10          | 2    | 70                         | 18 | 43                   | 24                                | 7                           | 40            | 15            | 18 +1.00.25       | 45             | 24.07                          | 37                           | 21.07                       | 47.07                     |
|                           | BQ3_10          | 3    | 90                         | 35 | 63                   | 24                                | 7                           | 40            | 15            | 18 +1.00.25       | 45             | 24.07                          | 37                           | 21.07                       | 47.07                     |
|                           | BQ1_12          | 1    | 55                         | 5  | 25                   | 26                                | 8                           | 50            | 18            | 20 +1.0,-0.25     | 80             | 29.43                          | 48.29                        | 30.64                       | 59.86                     |
| M12                       | BQ2_12          | 2    | 80                         | 20 | 50                   | 26                                | 8                           | 50            | 18            | 20 +1.0,-0.25     | 80             | 29.43                          | 48.29                        | 30.64                       | 59.86                     |
|                           | BQ3_12          | 3    | 100                        | 40 | 70                   | 26                                | 8                           | 50            | 18            | 20 +1.0,-0.25     | 80             | 29.43                          | 48.29                        | 30.64                       | 59.86                     |
|                           | BQ1_16          | 1    | 75                         | 5  | 35                   | 36                                | 9                           | 55            | 20            | 26 +2.0,-0.25     | 190            | 52.29                          | 88.21                        | 57.07                       | 108.57                    |
| M16                       | BQ2_16          | 2    | 100                        | 30 | 60                   | 36                                | 9                           | 55            | 20            | 26 +2.0,-0.25     | 190            | 52.29                          | 88.21                        | 57.07                       | 108.57                    |
|                           | BQ3_16          | 3    | 120                        | 55 | 80                   | 36                                | 9                           | 55            | 20            | 26 +2.0,-0.25     | 190            | 52.29                          | 88.21                        | 57.07                       | 108.57                    |
|                           | BQ1_20          | 1    | 100                        | 8  | 42                   | 46                                | 11                          | 70            | 25            | 33 +2.0,-0.25     | 300            | 92                             | 145.36                       | 89.07                       | 181.79                    |
| M20                       | BQ2_20          | 2    | 120                        | 35 | 72                   | 46                                | 11                          | 70            | 25            | 33 +2.0,-0.25     | 300            | 92                             | 145.36                       | 89.07                       | 181.79                    |
|                           | BQ3_20          | 3    | 150                        | 65 | 102                  | 46                                | 11                          | 70            | 25            | 33 +2.0,-0.25     | 300            | 92                             | 145.36                       | 89.07                       | 181.79                    |

The above loads are working loads that have the following Factor of Safety (FOS) Applied: Tensile = 1.925 to 1 Shear = 1.54 to 1

The loads stated above are based on our CE Mark approval document Z-14.4-482. The loads shown above are working loads based on the rated loads factored by 1.4 which is an average value between 1.35 used for static loading and 1.5 used for live loads. The rated loads stated in our approval already have a 1.375 factor for tensile and 1.1 factor for shear applied to them. This therefore means that the above loads have a 1.375 x 1.4 = 1.925 to 1 FOS in tensile and 1.1 x 1.4 = 1.54 FOS in shear.

The **BoxBolt** is tested and approved by CE Mark which complies with the DIN 18800 and Eurocode 3 design methods for bolted steel connections. A design guide and calculator is available when using these methods, please ask our technical team for more information.

The **BoxBolt** is also Lloyds Register type approved for use, should you require a copy of the approval certificate our technical team will be able to assist. The strength of the material our **BoxBolt** is connecting into should be checked for structural capacity by a structural engineer.

<sup>\*</sup> BQ1Z06 is tested at an external test house but is not approved by LR type or DIBt.

## Help Desk

#### **Dedicated Account Manager**

Our experienced sales team and a dedicated Account Manager strive to deliver a professional and personal service to support you and your company. The Account Manager will support your day-to-day requirements and build long-term relationships with your team.

### **Unrivalled Technical Support Services**

Whether it is a ground-based railing structure or a fall protection project, Kee Safety can advise you on project costs and help with specifying products. You can send us a sketch of the structure you are working on and we will detail all products you need to fulfil your client's requirements. We will also make sure that the recommended solution is compliant with current building regulations and safety requirements.

Kee Safety has CAD facilities and design software which enable us to create detailed drawings for your requirements, if needed.

### **Joint Site Surveys**

When you work on bigger, or more complicated projects, please contact us and we will be happy to help. If required, we can support you in carrying out a joint site survey.

- Wide range of safety products
- Expert industry knowledge
- Dedicated Account Manager
- Technical advice and support
- · Quotation and specification service
- Joint site surveys if needed
- · Design solutions in CAD





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